and re-examined, proving to be an undescribed species of *Crassatellites* from a region where none had been reported hitherto.

CRASSATELLITES BRASILIENSIS n. sp.

Shell solid, small for the genus, yellowish-white, covered with a thin brownish periostracum; valves ovate, slightly squarish behind, rapidly descending and rounded in front, with pointed, slightly flattened beaks, sculptured with a few (5 to 10) low concentric waves beyond which the disk is smooth, or concentrically striated with some very obscure, fine, radial lines near the anterior base; lunule narrow, elongate, bounded by an obscure sulcus inside of which the area is excavated; escutcheon similar but much larger; basal margin minutely crenulate within, hinge normal, the resilium immersed but rather short and wide; muscular impressions well defined. Height 27.5: length 36; diameter 15 mm., some specimens being proportionately a little shorter.

The posterior end is obscurely truncate, but in some specimens slightly rostrate. On the whole, the species has much the aspect externally of a smoothish *Astarte*. The bottom temperature where dredged was 57° Fahr. The beaks are usually a little behind the anterior third of the valves.

SHELL COLLECTING ON THE MISSISSIPPI.

BY FRANK C. BAKER.

For a number of years it has been the custom of the Chicago Academy of Sciences to have a Field-day some time during the month of July and to spend the day investigating some notable or particularly interesting locality, from a zoölogical, botanical or geological standpoint. These excursions are not only attended by members of the Academy, but by the faculties and students of the Chicago University, the Northwestern University and kindred scholastic bodies.

Saturday, July 12th, was chosen as the field-day for 1902, which dawned bright and pleasant. About one hundred and fifty people, including many of the charming "co-eds" from the Zoölogical Department of the Chicago University, met at the Chicago, Milwaukee and St. Paul depot, from which the special train left at eight o'clock

for Savanna, Illinois, our objective point. The ride consumed several hours and we arrived in sight of the Mississippi about noon.

Our first thought was for the "inner man," and we hastened in a body to the river bank, where we bargained with the boat renters and secured row-boats. No sooner were our bargains completed than we scrambled into our boats and rowed across the river toward a group of islands, where we ate our lunches.

The pull across the river was very interesting, especially to several of the "co-eds," who bravely volunteered to row one or two of the boats, for there was a seven-mile current which made this a matter of great exertion. The writer had never before seen the "Father of Waters," and he must confess that a peculiar feeling came over him as he rowed across the swiftly-flowing stream and thought of the many historic scenes which had taken place on or near this mighty river since De Soto first saw it. But the most interesting fact *to him* in connection with this river was that it afforded a home for more Unios than any other stream in the world.

As soon as lunch was out of the way we began a hunt for clams, and before the time arrived for the departure of our train we had accumulated several bushels, beside numerous examples of fresh-water gastropods, such as Campeloma and Vivipara.

About a mile above Savanna we found several men engaged in "fishing" for clams, which they sold to the button-factories at Muscatine and other places in Iowa and Illinois. Their method of fishing was ingenious. A bar of iron (frequently a gas pipe) six or seven feet long is strung with four-pronged hooks, made of bent and twisted telegraph wire. The strings are about five inches apart and two or three hooks are attached to each string, making two or three rows of hooks attached to the bar. As many as forty hooks are frequently strung on one bar, the whole appliance being locally known as a "crowfoot" dredge or grapple. A piece of rope is tied near each end of the bar, forming a sort of bridle, and to this is fastened another rope, twenty-five or more feet in length, by which the dredge is pulled over the bottom of the river.

At first sight one would hardly suppose that with such an instrument a person would be able to gather very many clams, but the fishermen told us that several tons could be obtained with this apparatus in a comparatively short time, The clams are caught in this way: in many parts of the river the Unios lie packed by thousands,

their shells half protruding from the mud and slightly gaping, as is natural with all these mollusks when at rest. As the fisherman pulls the dredge along the bottom over these Unio beds the prongs of the hooks become caught between the open valves of the shell, which immediately close and fasten themselves to the prong. A single haul may yield over one hundred shells caught in this way.

The inordinate collecting of shells for the button industry bids fair to exhaust the supply before many years have passed unless wise laws are enacted and enforced. Not only are many tons of these shells taken every year, but a large number are wilfully wasted by the fishermen. An example of this waste came under the notice of the writer on this occasion. Having failed to secure as many specimens as were wanted, a fisherman was asked if he knew a good place to gather clams. He replied that just above a large grain elevator some fishermen had dumped a boat-load on the shore. Not realizing fully what he meant, we walked to the spot indicated and there beheld a sight which made at least one of the party both glad and sad. Piled on the shore for a distance of a quarter of a mile were thousands upon thousands of clams, some alive, others with gaping shells and a few entirely devoid of the animal. Not less than twenty-five species were represented, many of them useless for the manufacture of buttons, but of great value to the conchologist of the future who may wish to study these species. The fishermen were either too lazy to throw them back into the water or else thought that if they threw them on the shore they would avoid catching them again on their hooks. Such wanton destruction as this, if not stopped, will soon exterminate many of the species. Those which were thus destroyed were comparatively thin shelled, such as Anodonta, Alasmidonta and Symphynota.

The species collected by the different parties were as follows:

Lampsilis ventricosa Barnes.
ligamentina Lamarck.
anodontoides Lea.
fallaciosa (Smith) Simpson.
recta Lamarck.
parva Barnes.
alata Say.[1]
gracilis Barnes.
leptodon Rafinesque.
Plagiola securis Lea.
elegans Lea.
Obliquaria reflexa Rafinesque.
Strophitus edentulus Say.
Anodonta corpulenta Cooper.
Arcidens confragosus Say.
Symphynota costata Rafinesque.
complanata Barnes.
Unio gibbosus Barnes.

[1] One specimen of alata was curiously deformed, one valve being perfectly flat while the other was very convex.

Unio crassidens Lamarck.
Pleurobema æsopus Green.
Quadrula plicata Say.
undulata Barnes.
heros Say.
lachrymosa Lea.
pustulosa Lea.
pustulata Lea.
trigona Lea.
obliqua Lamarck.
ebena Lea.[1]
tuberculata Rafinesque.
metanevra Rafinesque.
Vivipara intertexta Say.
Campeloma integrum DeKay.
subsolidum Anthony.
Polygyra multilineata Say.

The last was found to be a common inhabitant of the islands in the river and in the woods bordering the Iowa side of the river.

At Carroll Creek, ten miles from Savanna, Mr. C. C. Adams, of the University of Chicago, collected the following species, all being very common:

Amnicola limosa Say.
Physa gyrina Say.
Physa integra Haldeman.
Succinea ovalis Say.

A NEW FOSSIL ASHMUNELLA.

BY T. D. A. COCKERELL.

ASHMUNELLA THOMPSONIANA PECOSENSIS subsp. nov.

Small (diam. max. 12, min. 10.5 mm.); last half of last whorl very distinctly transversely ribbed, recalling *A. altissima;* lip and teeth strongly developed, basal tooth single.

Hab.: Vallé Ranch, Pecos, New Mexico, in a light reddish deposit of uncertain age, Nov. 30, 1902. (T. D. A. and W. P. Cockerell.) The commonest shell in the deposit is *Pyramidula strigosa cooperi. Vallonia cyclophorella* is also abundant.

Last year my wife collected a dead shell of a recent *Ashmunella* at the old Pecos Pueblo, which is only a few miles from the Vallé Ranch. It is *A. thomsoniana*, with max. diam. 13.5 mm., basal tooth single. There is no sign of the ribbing of the fossil form.

[1] This species is called "nigger-head" by the fishermen, and is considered the most desirable shell for the cutting of pearl buttons.